REMARKS

Summary of the Amendment

Upon entry of the above amendment, the specification and claim 1 will have been amended. Accordingly, claims 1-30 will be pending with claims 1, 11 and 22 being in independent form and with claims 11-30 being withdrawn by the Examiner on the basis of a restriction requirement.

Summary of the Official Action

In the instant Office Action, the Examiner re-asserted the basis of the previous restriction requirement, withdrew claims 11-30 from examination, and made the restriction requirement final. The Examiner also acknowledged Applicant's claim to foreign priority and indicated consideration of the IDS filed on December 8, 2003. The Examiner additionally objected to the specification and claims 1-10 on the basis of Section 112, first and second paragraphs. Finally, the Examiner rejected claims 1-10 over the art of record. By the present amendment and remarks, Applicant submits that the rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

Interview of January 4, 2005

Applicant appreciates the courtesy extended by Examiner Zimmerman in the Interview of January 4, 2005. In that interview, Applicant's representative discussed, among other things, the objection to the specification, the Section 112, first and second paragraph rejections, and that none of the prior art documents disclose or suggest the process recited in claim 1 in combination with at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed.

In response to Applicant comments regarding the objection to the specification, the Examiner suggested deleting the language of incorporation by reference in paragraph [0014] to resolve the objection. The Examiner specifically indicated that it was proper for Applicant to incorporate by reference the priority document and that paragraph [0001] was proper and need not be amended.

In response to Applicant comments regarding the Section 112, first and second paragraph rejections, the Examiner agreed to reconsider the rejections in light of Applicant's statement that the term "particle-containing interstructures" refers to interstructures formed by bubbles created in a melt that includes particles and that such particle containing melts are know in the art from documents such as, e.g., applied document US 2003/0005793. The Examiner also agreed to reconsider these rejections in light of the fact that at least the

drawings clearly show the formation of the interstructures 7 between adjacent bubbles.

In response to Applicant comments regarding the prior art rejections, the Examiner agreed to reconsider the rejections in light of Applicant's proposed amendments to claim 1 and indicated that such an amendment would advance prosecution.

Accordingly, in an effort to advance prosecution, Applicant has amended the claims in manner which was indicated by the Examiner to possibly define over the applied art of record and/or advance prosecution.

Restriction Requirement

Claims 1-10 were elected with traverse. Moreover, claims 11-30 were withdrawn by the Examiner as directed to the non-elected invention. Moreover, the Examiner has made the restriction final. However, at this time, Applicant is not canceling the non-elected claims pending allowance of the elected claims.

Objection to the Specification is moot

Applicant submits that the objection to the specification is moot inasmuch as the specification has been amended as suggested by the Examiner in the Interview.

Accordingly, Applicant respectfully requests that the above-noted objection be withdrawn.

The Section 112, First Paragraph Rejection, is moot and/or traversed

Claims 1-10 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicant respectfully traverses this rejection and/or submits that this rejection has been rendered moot.

Applicant submits that the specification and drawings provide full and clear support for the features recited in claim 1 such as the particle-containing interstructures. As was pointed out in the Interview, the specification and drawings, and specifically paragraph 12 and Figs. 3, 3a, 4 and 5, provide full and clear support for the formation of the interstructures 7 between the adjacent bubbles. Moreover, as noted in the Interview, because the use of particles in a foamable melt is known in the art (as evidenced by at least document US 2003/005793), Applicant submits that one having ordinary skill in the art would know how to practice the claimed invention based on the disclosure of the application and what is known in the art.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of these claims under 35 U.S.C. § 112, first paragraph.

The Section 112, Second Paragraph Rejection, is moot and/or traversed

Claim 1 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out or distinctly claim the subject matter which applicant regards

as the invention. Applicant respectfully traverses this rejection and/or submits that this rejection has been rendered moot.

As explained above, and as acknowledged by the Examiner in the Interview, the specification and drawings provide full and clear support for the features recited in claim 1 such as the particle-containing interstructures. Again, paragraph 12 of the specification and Figs. 3, 3a, 4 and 5, provide full and clear support for the formation of the interstructures 7 between the adjacent bubbles. Moreover, because the use of particles in a foamable melt is known in the art (as evidenced by at least document US 2003/005793), Applicant submits that one having ordinary skill in the art would have no difficulty understanding what is meant by this recited feature.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of this claim under 35 U.S.C. § 112, second paragraph.

Traversal of Rejections Under 35 U.S.C. §102

Over Dobesberger '793

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by published US patent application 2003/0005793 to DOBESBERGER et al.

In the rejection, the Examiner asserted that DOBESBERGER '793 discloses all the recited features of these claims, including the recited feed pipes. Applicant respectfully

traverses this rejection.

Applicant respectfully submits that this rejection is entirely improper because DOBESBERGER '793 fails to disclose, or even suggest, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that DOBESBERGER '793 discloses forming a metal foam by introducing gas into a particle-containing foamable melt in order to form a monomodal distribution of the bubbles (see paragraph [0046]). However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution either by *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.* For example, paragraph [0046] of this document indicates that the monomodal distribution can be achieved by providing "different release parameters for each of the bubbles."

Thus, Applicant submits that this document clearly lacks any disclosure with regard to at least the above-noted features.

For the foregoing reasons and because this document fails to disclose the above-noted features of the instant invention, Applicant submits that this document fails to disclose each and every recited feature of claim 1. Accordingly, Applicant submits that the Examiner has failed to provide an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(e) and that the instant rejection is improper.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper characterization or reading of DOBESBERGER '793 discloses, or even suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes as recited in claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having

the solidified metal foam as recited in claim 7; that the introducing comprises introducing the gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection and further requests that the above noted claims be indicated as allowable.

Over Fuerst '987

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 102(e) as being anticipated by published US patent application 2004/0093987 to FUERST et al.

In the rejection, the Examiner asserted that FUERST '987 discloses all the recited features of these claims, including the recited feed pipes. Applicant respectfully traverses this rejection.

As a preliminary matter, Applicant notes that this document was filed on November 18, 2002, whereas Applicant's application claims foreign priority to the earlier foreign filing date of September 9, 2002. Accordingly, while Applicant recognizes that this document can be removed as prior art by submitting a certified English language translation of Applicant's priority document, Applicant has not done so at this time because it is believed that the

claims as amended herein define over this document.

Applicant respectfully submits that this rejection is entirely improper because FUERST '987 fails to disclose, or even suggest, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that FUERST '987 discloses forming a metal foam by introducing gas into a foamable melt in order to form bubbles of uniform size (see paragraph [0010]). However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.* For example, paragraph [0009] of this document merely indicates that the bubbles are formed when they rise to the surface after the gas is introduced into the melt from the feed pipes.

Thus, Applicant submits that this document clearly lacks any disclosure with regard to

at least the above-noted features.

For the foregoing reasons and because this document fails to disclose the above-noted features of the instant invention, Applicant submits that this document fails to disclose each and every recited feature of claim 1. Accordingly, Applicant submits that the Examiner has failed to provide an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(e) and that the instant rejection is improper.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper characterization or reading of FUERST '987 discloses, or even suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes as recited in claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having the solidified metal foam as recited in claim 7; that the introducing comprises introducing the

gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection and further requests that the above noted claims be indicated as allowable.

Traversal of Rejections Under 35 U.S.C. § 103(a)

Over Linke and Dobesberger '104

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over CA 2,084,038 to LINKE et al. in view of AT 410 104 to DOBESBERGER et al.

The Examiner asserted that LINKE teaches all of the claimed features except for the recited projecting pipes. However, the Examiner asserts that DOBESBERGER '104 teaches this feature and that it would have been obvious to combine the teachings of these documents. Applicant respectfully traverses this rejection and the Examiner's assertions.

As a preliminary matter, Applicant notes that DOBESBERGER '104 published on February 25, 2003, whereas Applicant's application claims foreign priority to the earlier foreign filing date of September 9, 2002. Accordingly, while Applicant recognizes that this

document can be removed as prior art by submitting a certified English language translation of Applicant's priority document, Applicant has not done so at this time because it is believed that the claims as amended herein define over this document.

Applicant respectfully submits that this rejection is entirely improper because no proper combination of LINKE and DOBESBERGER '104 discloses or suggests, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that LINKE discloses forming a metal foam by introducing gas into a particle-containing foamable melt in order to form bubbles (see page 3, lines 3-14). However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.* For example, page 3, lines 11-14 of this document merely indicates that the size and distribution

of the bubbles are controlled by the molten metal supply rate, the gas and possibly the content of the particles or the impurities.

Applicant also does not dispute that DOBESBERGER '104 discloses forming a metal foam by introducing gas into a foamable melt via feed pipes in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

Thus, even if these documents were properly combined, which Applicant submits they cannot be, they would nevertheless lack features which are recited in at least independent claim 1. Moreover, Applicant submits that each of these documents fails to disclose or suggest the requisite motivation or rationale for combining these documents in the manner asserted by the Examiner. Finally, Applicant submits that DOBESBERGER '104 fails to cure the deficiencies lacking in LINKE, and vice versa.

Applicant reminds the Examiner of the guidelines identified in M.P.E.P section 2141 which state that "[i]n determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458

F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As this section clearly indicates, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

Moreover, it has been legally established that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) .... Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Additionally, it has been held that "[a] statement that modifications of the prior art to meet the claimed invention would have been ` well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to

establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993)."

Thus, Applicant submits that there is no motivation or rationale disclosed or suggested in the art to modify either document in view of the other in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify any of these documents, or their combination, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at least independent claim 1 is not rendered obvious by any reasonable inspection of the disclosures of the applied prior art.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of LINKE and DOBESBERGER '104 discloses or suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes as recited in

claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having the solidified metal foam as recited in claim 7; that the introducing comprises introducing the gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of the above-noted claims under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

Over Dobesberger '103 and Dobesberger '104

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over AT 410 103 to DOBESBERGER et al. in view of AT 410 104 to DOBESBERGER et al.

The Examiner asserted that DOBESBERGER '103 teaches all of the claimed features except for the recited projecting pipes. However, the Examiner asserts that DOBESBERGER '104 teaches this feature and that it would have been obvious to combine

the teachings of these documents. Applicant respectfully traverses this rejection and the Examiner's assertions.

As a preliminary matter, Applicant notes that DOBESBERGER '103 and DOBESBERGER '104 each published on February 25, 2003, whereas Applicant's application claims foreign priority to the earlier foreign filing date of September 9, 2002. Accordingly, while Applicant recognizes that these documents can be removed as prior art by submitting a certified English language translation of Applicant's priority document, Applicant has not done so at this time because it is believed that the claims as amended herein define over these documents.

Applicant respectfully submits that this rejection is entirely improper because no proper combination of BOBESBERGER '103 and DOBESBERGER '104 discloses or suggests, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that DOBESBERGER '103 discloses forming a metal foam by introducing gas into a particle-containing foamable melt in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

Applicant also does not dispute that DOBESBERGER '104 discloses forming a metal foam by introducing gas into a foamable melt via feed pipes in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

Thus, even if these documents were properly combined, which Applicant submits they cannot be, they would nevertheless lack features which are recited in at least independent claim 1. Moreover, Applicant submits that each of these documents fails to disclose or suggest the requisite motivation or rationale for combining these documents in the manner asserted by the Examiner. Finally, Applicant submits that DOBESBERGER '104 fails to cure the deficiencies lacking in DOBESBERGER '103, and vice versa.

Thus, Applicant submits that there is no motivation or rationale disclosed or suggested

in the art to modify either document in view of the other in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify any of these documents, or their combination, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at least independent claim 1 is not rendered obvious by any reasonable inspection of the disclosures of the applied prior art.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of DOBESBERGER '103 and DOBESBERGER '104 discloses or suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes as recited in claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having the solidified metal foam as recited in claim 7; that the

introducing comprises introducing the gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of the above-noted claims under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

Over Dobesberger '526 and Dobesberger '253

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over JP 2003-119526 to DOBESBERGER et al. in view of JP 2003-112253 to DOBESBERGER et al.

The Examiner asserted that DOBESBERGER '526 teaches all of the claimed features except for the recited projecting pipes. However, the Examiner asserts that DOBESBERGER '253 teaches this feature and that it would have been obvious to combine the teachings of these documents. Applicant respectfully traverses this rejection and the Examiner's assertions.

As a preliminary matter, Applicant notes that DOBESBERGER '526 and DOBESBERGER '253 published respectively on April 23, 2003 and April 15, 2003, whereas

Applicant's application claims foreign priority to the earlier foreign filing date of September 9, 2002. Accordingly, while Applicant recognizes that these documents can be removed as prior art by submitting a certified English language translation of Applicant's priority document, Applicant has not done so at this time because it is believed that the claims as amended herein define over these documents.

Applicant respectfully submits that this rejection is entirely improper because no proper combination of BOBESBERGER '526 and DOBESBERGER '253 discloses or suggests, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that DOBESBERGER '526 discloses forming a metal foam by introducing gas into a particle-containing foamable melt in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing*

interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

Applicant also does not dispute that DOBESBERGER '253 discloses forming a metal foam by introducing gas into a foamable melt via feed pipes in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

Thus, even if these documents were properly combined, which Applicant submits they cannot be, they would nevertheless lack features which are recited in at least independent claim 1. Moreover, Applicant submits that each of these documents fails to disclose or suggest the requisite motivation or rationale for combining these documents in the manner asserted by the Examiner. Finally, Applicant submits that DOBESBERGER '526 fails to cure the deficiencies lacking in DOBESBERGER '253, and vice versa.

Thus, Applicant submits that there is no motivation or rationale disclosed or suggested in the art to modify either document in view of the other in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify any of these documents, or their combination, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at

least independent claim 1 is not rendered obvious by any reasonable inspection of the disclosures of the applied prior art.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of DOBESBERGER '103 and DOBESBERGER '104 discloses or suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes as recited in claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having the solidified metal foam as recited in claim 7; that the introducing comprises introducing the gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of the above-noted claims under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

Over Dobesberger '793 and Dobesberger '036

Applicant traverses the rejection of claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over published US patent application 2003/0005793 to DOBESBERGER et al. in view of published US patent application US 2003/0047036 to DOBESBERGER et al.

The Examiner asserted that DOBESBERGER '793 teaches all of the claimed features except for the recited projecting pipes. However, the Examiner asserts that DOBESBERGER '036 teaches this feature and that it would have been obvious to combine the teachings of these documents. Applicant respectfully traverses this rejection and the Examiner's assertions.

As a preliminary matter, Applicant notes that DOBESBERGER '793 and DOBESBERGER '036 can be converted from prior art documents under 35 UCS 102(a) to prior art documents under 35 UCS 102(e) if Applicant's perfects it claim to foreign priority by submitting a certified English language translation of Applicant's priority document, and that this rejection would thereafter be improper under 35 UCS 103(c) because the above-noted documents and the instant application were commonly owned at the time the instant

application was filed, Applicant has not done so at this time because it is believed that the claims as amended herein define over these documents.

Applicant respectfully submits that this rejection is entirely improper because no proper combination of DOBESBERGER '793 and DOBESBERGER '036 discloses or suggests, inter alia, a process for manufacturing metal foam, wherein the process comprises introducing gas into a foamable molten metal from at least two neighboring similarly dimensioned feed pipes projecting into a metallurgical vessel, forming bubbles in an area of ends of the feed pipes, ensuring that abutting areas of adjacent bubbles form particle-containing interstructures, and *at least one of forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes and shifting laterally a row of the bubbles before a new row of bubbles is formed*, as recited in amended independent claim 1.

Applicant does not dispute, for example, that DOBESBERGER '793 discloses forming a metal foam by introducing gas into a particle-containing foamable melt in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.*

As noted above, Applicant does not dispute that DOEBESBERGER '793 discloses

forming a metal foam by introducing gas into a particle-containing foamable melt in order to form a monomodal distribution of the bubbles (see paragraph [0046]). However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.* Again, paragraph [0046] of this document merely indicates that the monomodal distribution can be achieved by providing "different release parameters for each of the bubbles."

Applicant also does not dispute that DOBESBERGER '036 discloses forming a metal foam by introducing gas into a foamable melt via feed pipes in order to form bubbles. However, Applicant submits this document contains no disclosure with regard to providing such a monomodal distribution by either *forming the particle-containing interstructures of the adjacent bubbles before the bubbles separate from the ends of the feed pipes* or by *shifting laterally a row of the bubbles before a new row of bubbles is formed.* Applicant notes, for example, that paragraph [0027] merely indicates that a uniform bubble size can be achieved by adjusting inflow parameters of the gas into the metal melt.

Thus, even if these documents were properly combined, which Applicant submits they cannot be, they would nevertheless lack features which are recited in at least independent claim 1. Moreover, Applicant submits that each of these documents fails to disclose or

suggest the requisite motivation or rationale for combining these documents in the manner asserted by the Examiner. Finally, Applicant submits that DOBESBERGER '036 fails to cure the deficiencies lacking in DOBESBERGER '793, and vice versa.

Thus, Applicant submits that there is no motivation or rationale disclosed or suggested in the art to modify either document in view of the other in the manner asserted by the Examiner. Nor does the Examiner's opinion provide a proper basis for these features or for the motivation to modify any of these documents, or their combination, in the manner suggested by the Examiner. Therefore, Applicant submits that the invention as recited in at least independent claim 1 is not rendered obvious by any reasonable inspection of the disclosures of the applied prior art.

Finally, Applicant submits that claims 2-10 are allowable at least for the reason that these claims depend from an allowable base claim and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of DOBESBERGER '793 and DOBESBERGER '036 discloses or suggests: that the metal foam is a free-flowing metal foam having a monomodal distribution of cavity dimensions as recited in claim 2; that the process further comprises determining a size of individual bubbles based upon a distance between adjacent feed pipes as recited in claim 3; that the bubbles comprise cavities and wherein the process further comprises determining a size of individual cavities based upon a distance between adjacent feed pipes

as recited in claim 4; that the introducing comprises introducing gas into one of a mold and an ingot mold as recited in claim 5; that the process further comprises allowing the metal foam to solidify as recited in claim 6; that the process further comprises forming a dischargeable member having the solidified metal foam as recited in claim 7; that the introducing comprises introducing the gas into a mold after an essentially thin-walled solidification stage occurs as recited in claim 8; that the mold comprises an ingot mold as recited in claim 9; and that the essentially thin-walled solidification stage comprises allowing molten metal to solidify on an internal wall of the mold as recited in claim 10.

Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of the above-noted claims under 35 U.S.C. § 103(a) and indicate that these claims are allowable.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicant's invention, as recited in each of the pending claims.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Please charge any additional fees necessary for consideration of the papers filed herein

and refund excess payments to Deposit Account No. 19-0089.

Should there be any questions, the Examiner is invited to contact the undersigned attorney at the number listed below.

Respectfully submitted,
F. DOBESBERGER et al.

Neil F. Greenblum
Reg. No. 28,394

Robert W. Mueller
Reg. No. 35,043

January 5, 2005
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191